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WILDLIFE
RESEARCH
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OUR COVER: Food resources in the plant kingdom are graphically represented by the no. 6 pool elevator at Port Arthur, Ontario. R. D. Wilson is the artist. (Courtesy of Bank of Montreal.)

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time now for a positive approach



By now, the 5th Annual Review of the Economic Council of Canada, "The Challenge of Growth and Change" has been debated, discussed, disputed and declared as one of the most forthright statements of economic life available. It had a lot to say about agriculture and rural living.

"Canada has achieved a *rate* of growth of labour productivity in agriculture well above that recorded in other sectors of the economy! The substantial disparity between Canada and the United States in the absolute *level* of agricultural labour productivity has widened significantly."

The Review also focused on the real problems of poverty in Canada and called for more research and consideration at the highest levels of government.

The Economic Council Reviews are fulfilling a major objective by stating, in public, what many people think but few are prepared to believe. As a means of developing public awareness and government concern, the Economic Council's Reviews play a most effective role. The Reviews, however, tend to be so concerned with the diagnosis of the problem that the real cause and possible cures are hardly mentioned.

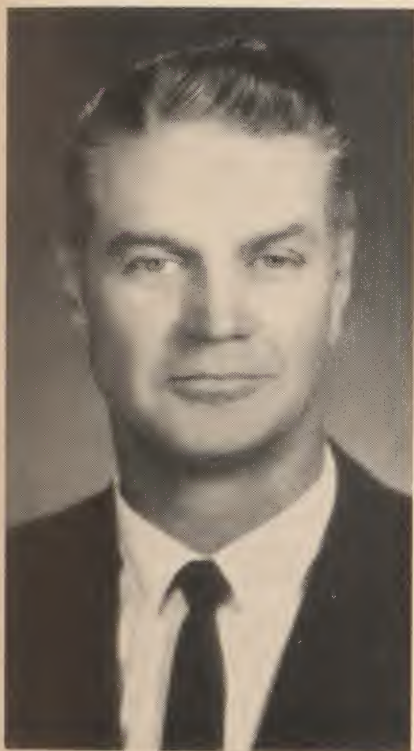
It is generally accepted that there are a lot of headaches in Canadian agriculture but what is really needed are some concrete new ideas that might cure the headache or at least make it more tolerable.

Now that the problems have been diagnosed, a prescription is needed. The responsibility for providing the prescription falls on the shoulders of the Federal Task Force on Agriculture. Its report should be available within the next few months. It is hoped that the Task Force report will go beyond the diagnosis stage and will come up with a new design for Agriculture in Canada — with some realistic and innovative answers to farm problems. If this happens then the committee members should be rewarded by immediate government leadership.

In the meantime, the headaches continue. It can only be hoped that the Task Force will come up with a diagnosis as well as a prescription. We can also hope that there will be enough public pressure to ensure a positive approach to the problem rather than filing the suggested cures under "Miscellaneous — too small to be of concern".

— The Editor

food resources in the plant kingdom



by Dr. Glenn Burton, U.S.D.A.

This article is a précis of an address by Dr. Glenn W. Burton, Research Geneticist with the United States Department of Agriculture at Tifton, Georgia. Dr. Burton was the Agricultural Institute of Canada's L. S. Klinck lecturer at Macdonald College earlier this month.

A hungry world facing starvation tomorrow must rely on the plant kingdom. Destroy it, and man, animal, fish and fowl starve to death; for only green plants, subjects of this kingdom can convert solar energy into food.

With acreage for crop production severely limited, only those plants with high potential can feed tomorrow's hungry world. The cereal grasses meet this requirement well but, unfortunately, they are low in protein and are frequently deficient in one or more of the essential amino acids. Protein malnutrition is today one of the most serious problems in the new, developing countries.

Legume seeds, which now supply eight and one half million tons of protein to humans will, no doubt, continue to be a major source of protein throughout the world. Modern processing of soybeans, for example, drives off undesirable substances and consequently meals, flours, finely pulverized milk substitutes and texturized products that closely resemble meats have been produced. Although these "meat" products are often indistinguishable from the originals, processing costs are too high to make them practical in developing countries.

As the demand for food protein increases, man may be forced to turn to certain forage crops to meet his needs. In addition, to avert mass famine, food crop yields will have to be greatly increased. More of the right kind of fertilizer, applied at the right time, will be required. Cultural practices must be improved; pests must be controlled. Water, where available, must be efficiently applied. And better food plants must be found.

We must and will continue to search for new plant species. However, more potential food for man lies hidden in the germ plasm of our major food crops and their related species than in exotic food crops yet to be discovered. For example, it has been shown, that with 75 percent extraction, harvesting corn as leaf protein would increase yields of essential amino acids 60 percent over seed protein, 245 percent over milk protein and more than 12 fold over beef protein.

Grain sorghum varieties, which for many years were never considered important cereals because it was too difficult to harvest the grain, are now playing a leading role in the fight against hunger. Sorghum geneticists, who discovered hidden genes for dwarfness and male-sterility, combined them to create a new cereal with tremendous yield potential for the semi-arid parts of the world.

Even wheat is undergoing important changes. A new variety, Gaines wheat, bred by a USDA wheat geneticist, has produced yields in excess of 200 bushels per acre. India, a hybrid pearl millet has yielded

about twice as much grain as the best open pollinated varieties throughout the 27 million acre millet belt.

For many years, geneticists have been trying to combine the desirable characteristics of two important cereals, wheat and rye. There have been many difficulties, but a University of Manitoba scientist has developed a species, Triticale, which several people have predicted will be more significant in helping feed the world than hybrid wheat.

At the International Rice Research Institute at Los Banos, Philippines, a team of outstanding scientists has been brought together to study the rice plant and increase yields by improving it and its environment. Some new varieties have been developed, and Asiatic governments are going all-out to increase and distribute the new varieties to their cultivators.

But what of the future? Scientists will certainly be at work correcting the nutritional deficiencies in all major food crops, and pest resistance will be added to increase the yield and dependability of these crops. Greater drought tolerance and efficiency in water use must also be added if we are to succeed in moving our food crops farther into the desert.

There will be changes in plant structure. Plants will generally have shorter, stiffer stalks. As plant populations increase, leaf placement becomes increasingly important for the interception of light, and plants with short, erect leaves will be developed. In other cereals, varieties with a higher proportion of grain to fibre will be developed.

More extensive and efficient root systems will almost certainly be added to tomorrow's super varieties. These varieties may also have fewer stomata, or stomata that open at night and close in the day, to make them use water more efficiently. Where shortening the days from planting to maturity will allow the growth of a second crop in the growing season, earlier varieties will be bred. Increased tolerance of low temperatures in the seedling state will be incorporated into crops so they may be planted earlier.

The shapes of crop plants that will feed the world 100 years from now cannot be predicted. Certainly, they will be different. They will be designed by teams of disciplines yet to be born. Working with these teams, plant geneticists will make dynamic changes in crop plants—changes that will enable them to use fertilizer and all other environmental factors more efficiently. Only in this way can the world be fed.

a fire is burning

by Mary Baker

Reprinted from the Atlantic Advocate

Students are adults . . . instructors are the neighbours . . . the curriculum could be any subject . . . there are no examinations . . . people attend just for the fun of learning — and a unique experiment in Prince Edward Island proves astonishingly successful.

While a dozen or so males of varying ages did push-ups, chin-ups and other assorted exercises in the vast auditorium, a couple of well-endowed, middle-aged women trotted happily around the periphery to the strains of a Sousa March. Hard at their heels was a boyish young farmer from the district, clad in white sweat shirt and jeans.

"Come and join us. It's great fun!" he called out as he sped by. His invitation could well be the slogan for a revolutionary new program of adult education, covering a multitude of subjects, which is sweeping Prince Edward Island like a summer grass fire.

It is known as the Community School Program, but the prosaic moniker — though apt — fails to convey the enthusiasm and excitement which the program has generated since its test flight three years ago. As democratic as Magna Carta, it can best be described as a self-help approach to education of the people, by the people, for the people. And it is part and parcel of a greater, overall plan of community development, with emphasis placed squarely on the most vital aspect of all successful development activity (and the most frequently neglected), that of people involvement.

A visit to some of the classrooms showed the extent of this involvement. In one, a young lawyer guided an elderly man in his first attempt at public speaking before a mixed class which included farm wives and farmers, business men and secretaries. In another, a member of the R. C. M. P. chatted informally on safe driving practices and readily answered questions from members of his audience. In the science laboratory, the white porcelain sinks were splashed with gay colours as a number of amateur artists, using poster paints, worked earnestly to reproduce a toppled basket of mixed fruit and vegetables. The class, conducted by one of Prince Edward Island's well-known artists, was predominantly male but included two women teachers.

"I've always wanted to paint," one said, "I look forward to these sessions from week to week . . . even though I spend all my days in a classroom myself."

Elsewhere in the building, two clergymen were among a group which gamely struggled with the intricacies of French idiom; couples opposed other couples at bridge tables, under the kindly supervision of an experienced player; a successful farmer

freely discussed his personal management policy with other, not-so-successful, members of the farming community; and a credit union manager expounded on the virtues of thrift and safe investments. The whirl of sewing machines, the clatter of typewriters and the melodic echo from a choral rendering of a folksong testified to other popular and skill-acquiring activities.

The spirit of the community school, and there are twenty in operation this year with an enrolment of about three thousand, representing close to seven percent of adults in the province, is exemplified by the fact that it is all but cost-free. Instructors, where practicable, are residents of the district and unpaid; if they come from an outlying district they receive mileage. In rare cases when a class wishes to engage a specialist, the members undertake the responsibility for the cost. Last year, for example, a group interested in taking dancing lessons defrayed the cost of bringing a teacher from Moncton, New Brunswick. The buildings where the ten-week program is set up are generally regional high or consolidated schools, made available through the courtesy of the provincial department of education for the two-hour weekly sessions. Working materials, necessary for some courses, are paid for by the individual, who is also asked to chip in anywhere from 50 cents to \$3, depending on the school. Ostensibly a registration fee, the money is used in part to offset the cost of a weekly coffee and doughnut session and possibly a wind-up banquet!

The coffee break is considered a period of major importance in the program since it emphasizes social contact between members of the community at different educational levels, engaged in a variety of occupations. Members are also likely to belong to different kinship groups, different churches and have different cultural backgrounds. Perhaps no other setting is so conducive to hearing and learning to understand the other person's point of view!

"In theory, a community school can consist of one person who wants to acquire more knowledge on a subject, and another person who is willing to impart that knowledge," Larry Yeo, fieldman for the provincial program, explains. In actual fact, there is one instance when a class was held for just two people who wished to learn elementary arithmetic.

Since no academic qualifications are required to enrol in a school, the program is eminently suited to those who might otherwise be excluded



from learning a skill that would aid in improving their occupational standards. Thus, when some fishermen on the western shore of the Island requested a course in the maintenance and operation of a ship-to-shore radio telephone system, inquiries were made at the Canadian Forces Base, Summerside, and a competent instructor was found to give the course.

Each school has its own curriculum, set up to meet local demands, and consequently the program varies from school to school. A list of some courses offered, such as skiing, swimming, bridge, music, painting and drama, could have come straight from the prospectus of an exclusive finishing school.

On the more practical side, there are courses in civil defense, first aid, child development, water resources, floriculture, wildlife study and many more. There is even a course in dog obedience training. A course can be refused, though, if it fails to fit into the special character of the community school idea. This happened when a prominent businessman proposed that one of the courses be restricted to him and one or two of his friends who could afford to purchase more sophisticated and more expensive equipment than was being used in the regular class.

There is no dearth of ideas among the leaders whose job it is to find instructors for the classes and arrange for special speakers.

"We don't know the potential of our neighbours until we sit down and talk to them," said Mr. Yeo.

One class that would agree with him is currently learning the ancient and fast-disappearing craft of lace making. The instructor is an elderly widow, somewhat of a recluse, who arrived at the school on registration night undecided about which course, if any, she could take part in. During a chat with the committee chairman, she mentioned her own hobby and was recruited when a group of women became interested.

Another speaker invited to address a homemaking course is the floral gardener at one of the best-kept and most beautiful cemeteries in the Maritimes. His talk on "Better Gardens and Beautification" created so much interest that he has been asked to return to future sessions.

Figuratively speaking, the structure of the community school is on a horizontal rather than a vertical plane, based on sound human relationship practices and with minimal command. Any persons interested can start a school in their own community, sim-

ply by calling a meeting and electing a committee with a chairman. There is no special procedure from there on. Each committee develops its own program according to local needs and then enlists the help of others in the community who have something to contribute either as leaders or instructors. An informal sharing of ideas is stressed, as opposed to lectures, since adults are believed to learn best in this type of environment.

Prince Edward Island has a large number of modern, well-equipped schools built and supported with the help of the people. These schools are the logical places to set up the evening programs since they have no other useful function after the close of the regular school day. The advantages of these locations, compared to halls or other community buildings, can be gauged from the support forthcoming from regular staff members — including those from religious teaching orders — and school board trustees. In addition, classes benefit from the free use of such equipment as typewriters and sewing machines and even school buses when needed, though commuters pay the cost of the bus driver.

The community school concept must be credited to Swiss-born Rudi Dallenbach, a dynamic personality who first visited Prince Edward Island about four years ago in his capacity as an ARDA rural development officer. At that time, another program led by a group of clergymen, who were concerned by the deterioration of conditions in rural areas with a resulting decline in the economy, was in the committee stage. It emerged in the spring of 1965 as the Rural Development Council under the chairmanship of Kenneth MacLean, a public spirited local farmer, active among other things in the co-operative movement of which he is a Maritime past-president. Constituted to provide an "institution for the study and promotion of community development among the people of Prince Edward Island", the Rural Development Council operates as a free-wheeling, non-body between various groups in its study of Island economy and other problems. It has proved itself a worthy vehicle in getting the community school program airborne!

The interest in the program at all levels augers well for its future. An Economic Improvement Corporation economist, Eugene Chatterton, said of it recently: "It is most exciting . . . I can see its possible application in other parts of the country — and even in other countries!"



wildlife research laboratory

sound practical studies can be undertaken. Now the researchers are beginning to get results which it is hoped will develop into more applied forms of research. Presently, individual students are working with raccoons, hares, jumping mice, field rodents, snakes and trout. The importance of studies on the first two species is obvious, but this is not the case for the others. Woodland jumping mice populations are exceedingly large, and yet they never become pests. Their populations are often ten times higher than those of the better known meadow jumping mice and yet very few people ever see them. These animals are particularly interesting to study because they respond well to changes in the weather, and from these studies it is hoped that a better general understanding of the effect of climate on activity will develop. A large field rodent population can eat more forage than cows and because of this situation the researchers are trying to determine what kinds of areas tend to encourage a rapid increase in their members. Snakes are far more abundant than one would expect; over two hundred individuals have been marked in a six-acre plot. Snakes themselves are not a nuisance, but it is known that they eat insects, frogs and toads. To what extent they are beneficial or harmful when there are so many about is not yet known, but by the time the researchers find out, they will also know all their habitat requirements and be able to manipulate their populations. Finally, so much work has been done on trout that most people feel there could not be anything of value left to be done. Here the researchers take violent exception because surprisingly enough trout streams can produce about five times more trout per acre than do lakes or ponds and yet until work was started on one of the field station streams, no investigation had ever been undertaken on a stream population of trout in the Province of Quebec.

Utilization of the site and laboratory is fortunately not confined to graduate wildlife biologists. The Lymann Museum entomologists, zoologists, geneticists undergraduate students in ecology and wildlife biology and student teachers all made use of the facilities this year. The site is not restricted to people from Macdonald College. Personnel from McGill, Université de Montréal, Laval, and a group of young girls from Ecole Normale Eulalie Durocher, all benefited in some way from the site and the new wildlife biology field laboratory this year.

On September 15th, 1968, a wildlife biology field laboratory was opened at Lac Carré, Quebec.

Over the past ten years several research programs in wildlife biology have been undertaken at this site. During the first year the area was used by three researchers, but each year since the group has grown a little larger. This year over 30 researchers alone, including graduate and undergraduate students from Macdonald College, worked at the site. It was fairly obvious early in the spring when plans for this summer's program were made that a field laboratory was desperately needed to provide a sheltered area where field data could be processed quickly. It was felt that a 16' by 24' "A" frame building would be a suitable physical structure, and financial support for the building materials was sought. The Montreal Anglers and Hunters came to the rescue and the laboratory was completed by the end of July.

The site on which the lab was built consists of three abandoned farms which are partly wooded and partly in transitional stages of reforestation. The woodlands range from a spruce swamp through dry cold coniferous sites to upland beech and maple forests. The areas which were once cultivated range from fields of golden rod through reforested pine, spruce and balsam plantations to natural regeneration stands of spruce, birch and trembling aspen. Through the farms flow three streams each of which has its own particularities as to size and type.

This cross section of Laurentian habitat provides ample opportunity for many kinds of studies, and more important, studies which can become of practical value to Quebec farmers, woodlot owners, hunters and anglers. Until recently the main purpose of the research has been to get as much data on animal activity in the different habitats as quickly as possible. This is considered as one of the basic forms of general information on which



Presentation of the lab. Left to right, Mr. Paul Pogueau, Secretary, Montreal Anglers; Dr. Bider; Dr. Dion; Mr. Gerry Ferguson, President of Montreal Anglers.



Gathering animal activity data on a sand transect.

seven textile fundamentals

The quality of a piece of cloth depends on the Seven Fundamentals of Textiles:

1. The fibre: cotton, wool, silk, nylon, etc.
2. The yarn into which the fibre is spun.
3. The way the yarns are made into a fabric: woven, non-woven, knitted, felted, braided, etc.
4. The weave that is used, if the fabric is woven.
5. The design, which should make the fabric more beautiful but sometimes doesn't, which should wash or dry-clean, but sometimes doesn't.
6. The dyes used to colour it, which should be fast to sun and laundry and dry-cleaning but sometimes aren't.
7. The finish applied to the cloth to make it more attractive, more durable or more functional, water repellent for instance.

For the choosing of fabrics the motto is *Caveat Emptor* — let the buyer beware. Every fabric should be judged in the light of the Seven Fundamentals.

At present, fibres are a problem. There are just too many cute, stupid, nonsensical and meaningless trade names attached to them. The aim? To impress the consumer, not to inform him. The trouble will continue until we in Canada insist on the addition of the generic or family name. Cumuloft, for example, means little, but Cumuloft Nylon lights a light. The Americans have fibre-labelling laws, why shouldn't we?

Design gives little trouble. Most designs are woven in or printed on the cloth and are durable. Shiny painted-on dots and spots, and the velvety flocked designs, sometimes aren't, but usually are, fast to laundering and dry cleaning.

Dyes improve every year. The industry is spending millions of dollars in research. Unfortunately, fugitive dyes are still used for cheap fabrics.



Curtain and Valance: Late 16th Century. It wore well!

Also, in some fabrics such as silks, the dyes are fast to light and dry cleaning but not to laundry because the manufacturer decided that no one would think of laundering such a lovely fabric. Ask for care instructions in the store. If these cannot be given, choose the safest care.

Some finishes can be seen and judged by examination. The depth and density of the nap on blankets can be compared and the best chosen. The better quality of mercerized cotton broadcloth will have the silkiest sheen and softest touch. The crease-

resistant finishes can be judged by doubling up a corner of the cloth and squeezing it in the hand. Clerks will object only if the finish is poor and the wrinkles remain. Functional finishes as water repellence and flame resistance are invisible. A number of chemicals may be used but these vary in satisfaction. They are complicated chemicals and a study of them gets involved. Guarantees by the store or the manufacturer are the

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see TEXTILE —

farm days at Macdonald

by Walker Riley

The Farm Days held at the College in early September were a big success. In the two days of open-house, six hundred people toured the corn fields saw the new silos, the displays, the liquid-manure systems, the livestock barns and talked with staff. It was a leisurely, cheerful sort of event; informality was the keynote.

We thought we had an easy winner if a prize had been given to the visitor coming the longest distance. A young dairy farmer and his wife came all the way from La Pocatiere, east of Quebec. But on Tuesday, a car-load arrived at 5:30 in the morning from Riviere du Loup. They had finished evening chores and had driven all night. Then during the day, we met a visitor from Lake St. John.

The most interest was perhaps in the field of corn with 40,000 plants per acre — just double the usual population. In fact, the planter did go over it twice last spring. Farm Manager Rudi Dallenbach's object was to see just how high you could go on a field scale, and still get a cob per plant. At this date, it looks quite good; most stalks have medium-sized ears, and they should be mature enough for silage if the frost holds off another few days.

In a carefully controlled plot-sized experiment, Dr. Bob Brawn has found 24,000 to 26,000 plants per acre the best. Yield was a bit greater at higher populations, but the moisture at harvest was too high above that population.

This Farm Day was not intended to be a revival of the old Better Farming Day, or to show off the research being done. It was just an open invitation to see a farm with all the ordinary problems and a few extra ones, in action.

What at first seemed like a bad goof turned out to be a blessing. Farm Days overlapped with student registration for the new term. Cars were lost all over the campus; we were short-staffed; the switchboard was jammed. But several Moms and Dads were able to ride the tour wagon while their offspring registered for the next term.

McGill will add faculty students to board, senate

The Board of Governors of McGill University today approved recommendations of a joint committee of the Board and Senate which will ensure participation of members of faculty and students on the two primary decision-making bodies of the University.

Major recommendations, as approved, will change the composition of the Board of Governors and Senate as soon as the appropriate amendments to the Statutes of the University are effected.

the board

The most significant change to be made in the membership of the Board will be the election of five members by and from the members of the University Senate for three-year staggered terms. Student members of the Senate will be eligible in this category.

In addition, 24 other members will be elected to the Board for staggered five-year terms under a general directive that nominees will be representatives of the various parts of the community which the University serves, "such as agencies of government, research, the professions, business, labour and the Arts".

The Chancellor, the Principal, and five members elected by the Graduates' Society with five-year staggered terms, will remain as members of the Board as heretofore. There will be a total membership of 36 in all, the number provided for in the present Statutes.

the senate

Membership on Senate will be subjected to a more radical revision, in which total overall membership will be increased from 38 to 65.

Student members of Senate will constitute a new category of membership. There will be a total of eight students on Senate.

Another radical revision will give members of Faculty a total of 32 elected members, numerically the largest category in the new Senate. There are nine elected members of Faculty on the present Senate.

This category will be made up of 14 members from Arts and Science,

the largest faculty; four from Engineering; three from Medicine; two each from Law, Agriculture and Education; one each from Management, Graduate Studies, Dentistry, Divinity and Music.

The number of ex-officio members will be reduced from 24 to 17. The ex-officio members of the new Senate will be the Principal, the Chancellor, the three Vice-Principals and 12 Deans. Those officials who will be dropped from ex-officio membership are the five Vice-Deans in the Faculty of Arts and Science who will, however, be eligible for election, the Director of Continuing Education, the Warden of Royal Victoria College and the Director of Libraries. The latter three officials will sit on Senate with voice but no vote.

Another important recommendation, which does not require statutory amendment will provide "that meetings of the Senate and Board of Governors should be open except when confidential matters, as determined by them, are discussed".

the joint committee:

The joint committee of the Board and Senate which formulated the recommendations approved at Monday's Board meeting was set up April 18, 1966 to study the Duff-Berdahl Report on University Government in Canada and to make recommendations concerning its findings.

The Committee published its first report November 15, 1967, and invited representations from interested bodies including the McGill Association of University Teachers, the Students' Society and the Graduates' Society. After studying briefs submitted by these bodies, the original recommendations were reviewed and amended in the light of the new information.

registration — 1968

The Diploma Agriculture class is the largest in several years — close to thirty. Their average age is nineteen, and several could have taken the degree course. But their choice was the two-year "action" course.

Final count is not in yet for the

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THE FAMILY FARM

PUBLISHED IN THE INTERESTS OF THE FARMERS OF THE PROVINCE BY
THE QUEBEC DEPARTMENT OF AGRICULTURE AND COLONIZATION

Production and Development Branch

market lamb and beef cattle competition for young farmers, 1968-69

*Compiled by
Tom Pickup
Information Service,
Quebec Department of
Agriculture and Colonization*

*Photographs by
Office du Film du Québec*

The aim of this competition is to promote the raising of beef cattle and market lambs by young farmers of Quebec. The competition is open this year to sons and daughters of farmers, whether they are members of a Young Farmers' Club or not, who are prepared to show a young beef steer or three market lambs at the National Salon of Agriculture in February 1969.

Nature of contest:

Show and auction sale of beef steers and market lambs at the National Salon of Agriculture.

Conditions:

- 1 — Competitors must be at least 14 and not more than 20 years of age and resident on their parents' farm where beef cattle or sheep are raised. There must be at least 25 beef cows or 50 ewes on the farm.
- 2 — Each competitor will show one steer or one group of three market lambs. The steer or lambs must have been raised on the farm in question or else purchased in Quebec before the first of October 1968 and paid for entirely by the competitor.
- 3 — Entries must be received before October 1st 1968.

Assistance:

The department of Agriculture and Colonization offers:

- 1 — Suitable expert assistance by members of its agricultural advisers' service.
- 2 — The following financial assistance:
 - a) payment of the cost of competitors' meals and accommodation;
 - b) payment of the veterinarian who will be responsible for



There's a gleam in the eye of Solange Normandeau of St-Urbain, Châteauguay, one of Quebec's younger farming generation, that tells she has the love of the land in her blood.

- the examination and care of the animals;
- c) payment of the help required for feeding, tending and cleaning during the Salon;
- d) payment of certain miscellaneous expenses including rental of weighing scale and purchase of necessary articles;
- e) payment of cost of a reception for buyers;
- f) payment of competitors' travelling expenses from their parish to Montreal and return and transportation fares during their stay in the city;
- g) payment of cost of transporting the animals.

The Deputy Minister of Agriculture
and Colonization
ROMEO LALANDE
Quebec, August 20th 1968

new age in agriculture

The age of traditional farming in Quebec is over. Nowadays, a farm, while keeping its family character, must be run like a real industry.

Today, the need is for well-organized modern farms, generally speaking large, producing for sale and with market outlets, whose operators have business sense and a eye to profit and loss.

In some cases farms which are too small (as many are) and self-contained must be reorganized. If they are to survive they will have to adjust to technical progress.

We must succeed in setting up farms that are competitive — competitive because they are sufficiently stable, supply produce to assured markets, and are adequately manned. They will undoubtedly need a large dose of capital: the government of Quebec and your minister of agriculture are fully aware of this problem — that is why the House will be occupied with a bill to revise farm credit entirely and bring it up to date for 1968, as soon as sessional work starts again this fall.

The economic soundness of a farming enterprise is definitely connected with the size and scale of operations; but it also depends on personal ability; price levels and technical development, and therefore involves a serious problem of education.

It is with a view to facilitating this necessary transformation of our agriculture that the Department recently decentralized its administration, dividing the farming territory into 12 regions, each one headed by a coordinator assisted by a group of experts whose role hinges on three main points: management, planning, and technique.

Management will be looked after by teams of agriculturists and technicians covering the whole territory according to the number and density of farms, and under the direct control of the regional coordinator.

The task of these management teams — on the farm with the farmer — will be to make a costing study and fill out an information form which, at the start, will enable valid conclusions to be drawn about the main factors governing the farmer's income — the scale of operations, sources of revenue, efficient use of labour, yields per acre, production per animal unit, turnover of capital. A plan of the farm in its present

state will be made, noting deficiencies and need for ditching and drainage stone removal, liming, manuring, green manuring, fertilization and so on. And an improved plan will also be drawn up, taking into consideration the physical and biological environment, economic situation of the farm, the farmer's aims, and possibilities for expanding the enterprise. A sound plan will be suggested and a programme for the construction and renovation of farm buildings. A system of bookkeeping will be introduced and a financing plan established, and the necessary recommendations for making use of the Department's assistance policies will be made. The team will also verify the application of technical recommendations and use of credit and assistance.

This planning will be done at the level of the coordinator and his regional office and will thus involve guiding regional agricultural development within the framework of provincial planning in cooperation with the organizations concerned—regional economic councils and various groups and associations interested in local development.

Besides this cooperation with existing farming, marketing and credit organizations designed to promote local farming interests, the coordinator will be responsible for preparing, analysing and evaluating projects, programmes and measures concerned with maximum use of the available biophysical, economic and human resources.

In future, the most up-to-date methods and technique for ensuring the transformation of agriculture and education of farmers will also be provided at the regional level. A regional agricultural office is well staffed with specialists in management, economics, veterinary medicine, hydraulics, farm buildings, animal husbandry, field crops, poultrykeeping, horticulture, domestic science, and credit and administration, all of whom are completely at the farmers' disposal. Agricultural services must get closer to the person they are principally concerned with—the farmer. Credit is due to the minister of agriculture for having understood this and started the reform which is now well on the way to realization.

But while agriculture in Quebec must be an industry, it cannot renounce its family character, and this type of farming obviously encounters economic problems.

Alone and isolated in its dealings with suppliers and buyers—who often have great commercial leverage—the family farm simply does not have enough bargaining power.

To overcome this difficulty, farmers have been strongly urged to group together to form a real force for the production and marketing of their products, with the necessary quotas and discipline—eventually compulsory—concerning quality, staggering of production, and minimum prices. Nevertheless, in spite of the advantages they are afforded, such groups are slow to organize.

Let us remember that, in agriculture as in other fields, those who accept progress and its normal demands can survive. The duty of a government is to watch and see that such developments and their consequences take place under conditions which are humanly and humanely acceptable.

The government must therefore provide special economic measures for those whose enterprises are on a modern scale, while making arrangements of a rather social nature for the others.

In order to encourage dialogue between the farmer and those who buy his produce and—as I promised on July 5th at the meeting of the agricultural committee to study the act (Bill 47-1968) to amend the agricultural marketing act—a government committee has just been formed to study Quebec's farm legislation with a view to establishing an adequate distinction between agricultural marketing and farm unionism. The committee is composed of Mr Marcel Trudeau, senior member of the legal firm of Beupré, Trudeau and Sylvestre of Montreal, Mr Jean-Réal Cardin, professor of social sciences at Laval University, and Mr Gilles Prigent, member and general director of the Agricultural Marketing Board. It may be joined later by Mr Yves Pratte in the capacity of legal adviser. Its task—in keeping with the spirit of the Royal Commission on Agriculture—will be to examine the provincial legislation concerning markets and agricultural syndicates in order to decide, after consulting the groups concerned, whether it is necessary to change the existing acts or even propose new ones to make a clearer distinction between two activities and to adapt this legislation to present and foreseeable future needs of farmers, middlemen and consumers.

As you can see, the Department and all the members of the government have one aim in mind: to provide the farmer with all the tools necessary for his success. It is up to the farmer to use them.

(Speech by the Hon. J.J. Bertrand at the 1968 Order of Agricultural Merit Banquet.)



Office du film du Québec

Two children of Mr. J.L. Fontaine of St-Armand, learning to understand animals.

policy for tomorrow's farmer

Speaking at the banquet attended by winners in the 1968 Junior Agricultural Merit contest the Minister of Agriculture and Colonization, Mr Clément Vincent, said that his department is constantly concerned with the farmer of tomorrow and it is with him in mind that its main policies are designed.

Taking the current decentralization of the Department as an example, Mr Vincent explained the role of the new regional agricultural offices and their coordinators, farm management teams and laboratories.

"The regional coordinators have an extremely important part to play in the preparation of the Department's policies because they have to guide

regional agricultural development within the framework of provincial planning, in cooperation with the organizations concerned such as local economic councils and different groups including the young farmers' or young breeders' associations. This means that, for the first time in the history of Quebec agriculture, the young people are going to have their say in agricultural planning".

Mr Vincent then described the work that will be carried out in the agricultural laboratories which will be distributed throughout Quebec in the coming years. Three of these laboratories are already being built — at Alma, Rimouski and Sherbrooke — and three more will be set up early next year, so that farmers will soon have access to the services of experts for soil analyses, diagnoses of plant and animal diseases and for other purposes, right in their own region.

Mr Vincent also announced that, in collaboration with the "Office franco-québécois de la Jeunesse", a study and information trip to France is being organized in which 15 Junior Agricultural Merit prizewinners will be able to participate. Those who do

so must contribute \$200 towards the cost. The first 15 to apply will be chosen. The French and Quebec governments will pay the other costs of the trip excepting, of course, personal expenses.

The Winners

The five prizewinners in each of the three classes of the 1968 Junior Agricultural Merit contest are as follows:

Class for boys with diplomas: Chris Judd, Shawville (Pontiac); Pierre Gaudet, Aston Junction (Nicolet); Larry Frizzle, R. R. 1 (Brome); Ken McFarlane, Howick (Châteauguay); Benoit Coulombe, R. R. 1, St-Coeur-de-Marie (Lake St. John).

Class for boys without diplomas: Eugène Asnong, Pike River (Missisquoi); Bertrand Lafleur, Grand-Remous (Gatineau); Daniel Tremblay, Albanel (Roberval); Grégoire Thérberge, St-Simon (Rimouski); James Todd, R. R. 5 (Huntingdon).

Class for girls without diplomas: Hélène Bédard, St-Tite (Lavolette); Nicole Corbeil, St-Antoine (Richelieu); Adèle Laferrière, Saint-Viateur (Berthier); Louise Larose, Barraute (Abitibi-East); Armande Lafrenière, Ste-Thérèse (Gatineau).

merit contest winners

The Minister of Agriculture and Colonization, Mr. Clément Vincent, has announced the names of the winners in this year's Agricultural Merit Competition. In the professional farmers' division, Mr Charles-Henri Leclerc of Pont-Rouge came first among 14 contestants for the title of Commander and the gold medal with a score of 912 points, seven more than the runner-up, Mr. Eugène Laflamme of Sainte-Thècle in Laviolette county. Mr. Cyrille Frigon of Louiseville, Maskinongé, was third with 903 points.

In the silver medal section, Mr. Raymond-Marie Blouin came first amongst 103 contestants.

In the division for farms of religious institutions, industrialists, and organizations or persons whose principal income is not derived from agriculture, Mr. Henri Cayer of Saint-Raymond, Portneuf, won the gold medal.

Mr Leclerc, who is 52, has operated a dairy farm in Terrebonne range, Pont-Rouge, for 24 years. Starting with five cows, he has striven unceasingly to enlarge his farm and increase its productivity and beauty. Today, he has a farm of 200 arpents and a milking herd of 32 cows which yielded 418,000 pounds of milk in 1967, or an average of 13,000 per head.

Mr Blouin farms 142 arpents on the Island of Orleans, specializing in dairying (33 cows averaging 13,250 pounds of milk a year) and producing piglets. He represents the fourth generation of Blouin's who have farmed this land at Saint-Jean.

Mr Cayer is an industrialist who owns a very large estate at Saint-Raymond and has one of the finest herds of Holsteins in Quebec. One of Mr Cayer's 175 cattle spent all last summer in the agricultural pavilion at Expo 67 where she was seen by millions of visitors. Last year, 73 milking cows yielded him 830,000 pounds of milk.

This year's Agricultural Merit Competition was held in the central part of Quebec, comprising the counties north of the St. Lawrence from Montmorency to Pontiac.

The other contestants in the gold-medal section for professional farmers were as follows (in ranking order):

Rosaire Cossette, Saint-Adolphe (Champlain) 888 points;

Edwin Pirie & Son, Bristol (Pontiac) 885 points;

Constantin Grégoire, Saint-Esprit, (Montcalm) 882 points;

Alphone Gervais, Saint-Timothée, (Laviolette) 879 points;

Westburn Hamilton & Son, Clarendon (Pontiac) 872 points;

Joseph N. Bourassa, Saint-Michel-des-Forges (Trois Rivières) 867 points;

Hormidas Dery, Sainte-Thècle (Laviolette) 866 points;

Henri Saint-Arnaud, Saint-Narcisse (Champlain) 864 points;

Jean-Baptiste Tousignant, Saint-Adelphé (Champlain) 862 points;

Maurice Lavallée, Neuville (Portneuf) 860 points;

Patrick Dupont, Saint-Férol (Montmorency) 858 points;

crowning 25 years work

"We thought we would be among the top five but we never expected to come first and win the title — but, without boasting, we think we've deserved it, and really won it!" That is what Mr and Mrs Charles-Henri Leclerc of Terrebonne range at Pont-Rouge had to say a few minutes after receiving official confirmation of their award of the gold medal of the Order of Agricultural Merit in the 1968 competition.

Mr Leclerc's success — shared with the wife who has followed him step by step in carrying out his many plans — is in fact well deserved. Both of them, together with their older children, might well be proud.

Mr Leclerc took over the farm he now operates in 1944 soon after his marriage, when his father, who acquired it in 1939, turned it over to him.

"It was a first-rate farm of 60 arpents then", said Mr Leclerc, "we had a few head of livestock, including fifteen cows, and our efforts hinged on hay and grain growing".

But there was a lot of work to be done. Mr. Leclerc's father had concentrated more on acquiring farms on which to establish his children than on farming the land intensively himself.

Backed by the experience gained from his father and while working in the paper mill at Pont-Rouge, Mr. Leclerc set to work in 1944 to improve his soil, crops and animals. Handy with tools, he completely remodelled the farmhouse he had built himself. It is now a large, ultra-modern, spotlessly clean and very comfortable home. After a few years, the farm became a paying proposi-

tion to which he devoted all his time. His outside work, coupled with an apparently inborn business sense, enabled him to accumulate the necessary basic capital to undertake and successfully carry out ambitious projects.

About 1949, he began to put his enterprise on a sound modern footing, gradually replacing the old buildings with clean, new and up-to-date ones, and sparing nothing which would ensure maximum returns from his buildings and equipment. Little by little, his carefully chosen machinery, continually improved dairy herd, and his fields—supplemented by additional leased land—enabled him to definitely get beyond the stage of merely paying his way. The Leclerc farm became a real business and it is as such that he now operates this big undertaking with the help of two of his sons.

Its present size is partly due to the purchase, in 1963, of a neighbouring farm which Mr Leclerc had been renting for several years, since when he has had 135 arpents in crop (including some carefully managed woodlots) still mainly forage and grain, and a herd of dairy cows, half of them purebred and half grade Holsteins from which the main income on the farm is derived.

As a result of this steady but remarkable progress, the Leclerc's won their first award—third place in the bronze-medal section of the Agricultural Merit contest in 1963—and then went back to their task of reorganizing the farm for dairy production and finishing the improvements to the farm buildings which had been almost completed two years previously.

The programme has been an outstanding success. Today, there are 40 cows, half of them purebred and half grade Holsteins as before, and 18 heifers. Milk production last year was over 415,000 pounds. This remarkably organized farm has attained a new pinnacle of success and its owner, scarcely 52 years of age and in his prime, faces an exceptionally promising future on the land that he wants to share with the sons whom he hopes will follow in his footsteps.

In spite of the work, the Leclerc's find time to devote very conscientiously to the upbringing and training of their younger children and take a lively interest in the progress of two older ones who have started their higher education. These demanding responsibilities still leave them some spare time that Mr Leclerc spends on carpentry and which Mrs Leclerc devotes to handicrafts — with impressive results.

administrative decentralization of Agricultural Department

Speaking in August at the dinner of the Diocesan Federation of the Saint-Hyacinthe U. C. C., Mr Clément Vincent, Minister of Agriculture and Colonization, described in detail the progress that has been made in decentralizing the administration of the Department, within less than a year of its announcement.

The territory covered by the Saint-Hyacinthe region—one of twelve into which Quebec has been divided for purposes of the decentralization policy—closely corresponds to that covered by the U. C. C. Federation, except for Shefford County.

Mr Vincent said that all the Department's units have now been established, at least on paper, and reorganization is proceeding fast. Each region has its own structures, suited to the type and possibilities of farming in the area. Specialists in the predominating branches of agriculture are already on the spot or very soon will be. This is the case at the regional level in Saint-Hyacinthe, for example, as regards farm management, fields crop, truck crops, marketing of industrial crops, livestock, extension, economics, young farmers, poultrykeeping, farm credit, crop insurance, agricultural engineering, veterinary medicine, and domestic science technicians. At the local level in this region, 18 management teams have already been formed and are ready to work directly with the farmer.

The regional office is to provide these teams with an indispensable tool—a production manual dealing with all aspects of agriculture in the region.

Mr Vincent pointed out that emphasis will be placed on dialogue between the Department and spokesmen for farming interests and those connected with farming. Thus, an agricultural planning committee for the Richelieu area is being formed and the following have been invited to participate: the U. C. C., The Quebec Feed Board, the Cercles des Fermières (farm women's clubs), the AFEAS, the Federation of Young Farmers' Clubs, credit union organizations, the Corporation of Agronomes, the Purebred Livestock Breeders' Association, representatives of the cooperative movement and of the Department of Industry and Commerce and any other organizations interested in the development of the

area.

This committee will work on a regional plan which can eventually be integrated within a provincial one.

Emphasizing that planning does not mean expressings hopes for the different parts of Quebec. Mr Vincent pointed out that, to begin with, an intimate knowledge of the material and human resources of the area concerned is required.

In connection with planning, a pilot study is now being made in the Richelieu area concerning the possibilities for industrial crops. The study deals, amongst other aspects, with the growing, uses, processing and marketing of such crops, whose production in the heart of Quebec could completely change the future of farming in these regions.

Mr Vincent also spoke of the efforts being made to encourage livestock raising, and the steps taken to collaborate with adult education and employment services, the U. C. C., and regional education authorities to ensure refresher courses in agriculture for adults next year.

Manicouagan director retires

Mr Bernard Baribeau, director of the Manicouagan Elite seed potato station at Baie-Saint-Ludger, Saguenay County, retired on August 30th 1968.

Mr Baribeau was born at Sainte-Geneviève de Batiscan in 1899 and obtained his degree in agriculture at Oka in 1918 just before joining the staff of the Quebec Department of Agriculture, on which he served for most of his long career.

In 1921, after studying plant pathology at Macdonald College of McGill University, Mr Baribeau was appointed head of the Potato Inspection and Certification Division with residence at Sainte-Anne-de-la-Pocatière. In 1961, he was proposed by the provincial government to direct the work of developing the Manicouagan experimental station and began his new duties in the same year.

In close collaboration with Dr Bertrand Forest, Research Director in the Department of Agriculture and Colonization, he succeeded in transforming the station within a few years into a model undertaking of 1600 acres, the first of its kind in Canada and the second biggest in North America.

The station now specializes in propagating Elite foundation stocks of eleven potato varieties, which are later multiplied by carefully chosen growers to provide seed of outstanding

quality for commercial production.

Mr Baribeau has achieved prominence in his career as a specialist and in research, particularly in 1931 when his investigations led him to the discovery of a specific potato disease, bacterial ring rot. His papers on this subject have attracted the attention of many scientists in North America.

meeting of Elite Seed Potato Committee

The heads (coordinators) of the Agriculture and Colonization's twelve administrative regions of Quebec attended the second meeting of the Quebec Elite Seed Potato Committee on Tuesday at Hauterive, near the Manicouagan Elite seed potato station, at Baie-Saint-Ludger.

The coordinators, who hold regular sessions for comprehensive study of the programmes for which they are responsible, took advantage of this meeting to study the many aspects of producing and distributing seed potatoes which are the subject of research at the Manicouagan station. After getting through a busy agenda, they drew up part of the schedule for the next meeting of the committee, which will henceforth meet twice a year, in August and December.

Following the meeting, the group visited the station at Baie-Saint-Ludger established in 1961 and hitherto directed by Mr Bernard Baribeau. This station, the first of its kind in Canada and the second biggest in North America covers 1600 acres, half of them reserved for propagating Elite foundation stocks of eleven potato varieties. Multiplication of these ideally grown stocks by carefully chosen growers provides seed of outstanding quality for commercial potato production.

At the Les Buissons station founded in 1956 adjoining the Manicouagan station, a number of research projects are being carried out on potatoes—including creation of varieties adapted to Quebec—and also on a number of varieties of fruits and vegetables under the direction of Dr. Gilbert Banville.

The soil at Les Buissons is especially suitable for experimental strawberry growing and about ten varieties now on trial there have so far given very promising results. This station also includes a demonstration home-garden and a two-acre nursery with a dozen kinds of trees and shrubs.

(more FAMILY FARM p. 18)

Women's Institutes

NEWS AND VIEWS OF THE QUEBEC WOMEN'S INSTITUTES INC.

Edited by
Viola Moranville,
Publicity Convenor
Q.W.I.

ABITIBI EAST-Matagami:—Mrs. Ossington, President of the Q. W. I., was a guest at our annual banquet. New ideas were discussed. Mrs. Ossington inspired us to work for the future of our W. I. A very successful rummage sale was held late in May.

ARGENTEUIL-Arundel:—An apron parade was held with each member modeling her own apron. A prize was given for the best display, then the aprons were donated to the Bazaar, which was held later. A report of the Provincial Convention was given by Mrs. Jones. Each member passed one of her favorite recipes to her right-hand neighbor. Members and friends are to visit Upper Canada. **Dalesville-Louisa:**—Mr. Merlyn Evans, Horticulturist, gave an informative talk on the growing (and caring for) of vegetables and flowers. Roll call was bring an object *from* or give a custom *of* a foreign country. The report of the Provincial Convention was given. Prize money was distributed to winners of the handicraft display at the fair. Ten members entered the competition and 12 prizes were won from the 16 entries. **Frontier:**—The highlight of this meeting was the full report of the provincial convention. This was an open-air meeting and held at Mrs. Basler's. Races for the children and guessing games for the ladies followed by refreshments for all brought to a close a most enjoyable program. **Lakefield:**—had ten members and one visitor at this meeting. A vote of thanks was given to Miss Shirley Riddell for winning five prizes on her handicrafts in the W. I. Competition at Lachute Fair. Mrs. Melvin Day gave a most interesting report of the Provincial Convention. **Pioneer:**—Mrs. A. Flower presented Mrs. James Brass with a gift from the Institute in appreciation of her work with the Branch as secretary. Mrs. A. Parker and Mrs. J. A. Bradley gave the report of the provincial convention. **Upper-Lachute East End:**—a report on the Senior Citizen's Home was given. Members also heard a paper read concerning 'Women'. Roll call was an original verse. The report of the Provincial Convention was given. Winning members received their prizes after the report of the Handicraft Exhibit was given.

BONAVENTURE-Black Capes:—Thirteen members answered the roll

call by naming a current event. One-minute speeches on various subjects were given by all of the members present. A report was given on the banquet held at the New Richmond Curling Club closing, catered by this Branch. **Cascapedia:**—Our annual convention was held in our W. I. Centennial Hall. A card party was held to help our funds. Mrs. Percy Barter gave the report of our County Meeting. Mrs. Henderson, County President, gave the report of the Convention held at Macdonald College. **Matapedia:**—A social evening was held at Petite Chamonix. A Dedication Service was held at St. Paul Anglican Church, Dawsonville, N. B., where a 'Litany Book' was dedicated in memory of our late president. Mrs. May Falle. Members of Matapedia W. I. donated the book and attended the service in a body. A minute of silence was observed for the late Senator Kennedy. Four members attended the County Convention. **Marcil:**—Eight members answered the roll call by naming their first teacher. Voting delegates were selected to attend the annual Convention. Seven Christmas Stockings were filled. Pens are ordered and will be for sale. **Port Daniel:**—The roll call was answered by ten members, there were two guests made welcome. A paper on House and Garden Plant care was read by Mrs. Ernest Sweetman, convenor of agriculture. A copy of the Quebec Mosaic has been purchased and will be read by the various members. Several Canada Packers labels were handed in. Games were organized and prizes distributed by Home Economic convenor.

BROME-Austin:—Articles were handed in for the fish pond and the sewing Table—which will be a part of the Garden Party. **Abercorn:**—Roll call was my mother's favorite saying. Mrs. Kuhring—a former member—is now in a nursing home in Knowlton. Plans were completed for attending the meeting in Lennoxville honoring Mrs. Aroti Dutt. It was voted that our Past Minute Books be stored in the Archives Building in the Knowlton Museum. The Annual School Fair will be held August twenty-fourth in the W. I. Hall. **Knowlton Landing:**—Roll call was answered by 'What's new in Agriculture'. A discussion on gardening was led by



Stanstead North W. I. 40th Anniversary. At a special meeting at the Red Brick Schoolhouse on Thursday, June 6th, 1968, Stanstead North Women's Institute Branch celebrated its 40th anniversary. Shown here (left to right) with the anniversary cake are charter members Mrs. Knowlton Curtis, Mrs. W. R. Rudd, Mrs. John Byers and Mrs. Eulalie Goodsell.

Mrs. G. Westover. Mrs. Elsie Knowlton, convenor of welfare and health, spoke on safety rules and the prevention of accidents. *South Bolton*—Roll call was made and wear a vegetable corsage or pay ten cents. Ten Christmas Stockings were filled. New fence and gate have been erected and the grounds cleaned with the help of several men. *Sutton*—Mrs. Bert Phelps of Highwater, gave a most helpful talk on the care of house plants, followed by a question period during which all members took a very active part. A picnic was held at the home of Mr. and Mrs. G. F. Knights. Roll call—name a flower in a wedding bouquet. Each member brought a miniature bouquet or corsage that was to be given to a shut-in. Prize for the best one was won by Mrs. Vincent, one of our eldest members.

CHATEAUGUAY - HUNTINGDON

Aubrey Riverfield:—A mystery parcel was brought in and later was won by Mrs. M. Templeton. Report of Convention held at Macdonald College was given. Pictures were shown of the recent trip to Ireland by Mrs. M. Stacy. *Dewittville*—The other branches were invited to hear our guest speaker, Garth Steven, talk about and view slides of the Chateaugay River from its American source almost to its mouth. *Dundee*—Held a work meeting for the U. S. C. Sewing done and patterns cut. *Franklin Centre*—A car load attended Man and His World. *Hemmingford*—Mrs. W. Kerr, County President, spoke about Provincial W.I. work. There will be a continued study of the B. N. A. Act. Handicraft articles from Scotland were demonstrated—weaving knitting, and glass-blown articles. A trip was enjoyed to the Bell Telephone Panorama of Communications in Montreal. The original one-act play presented by this Branch won the first prize at the Convention held at Macdonald College. Fourteen Christmas Stockings have been sent in. Roll call on 'Adult Education' showed a rising interest among the members. *Huntingdon*—Entertained Dundee W. I. at a picnic dinner at a member's summer cottage on Lake St. Francis. *Ormstown*—Two contests were enjoyed—'Name combinations' and 'Things found in a kitchen'. Tea and Food Sale held in Senior Citizen's Club. With Dewittville W.I. as guests a trip to Upper Canada Village was enjoyed.

COMPTON-Bury—Report of the Convention at Macdonald was given by the delegate. Guest speaker, Notary Leonard of Sherbrooke, spoke on citizenship. This was followed by a questionnaire on Family Life Educa-

tion which had been sent out by the Department of Sociology, York University. A paper was read on singing and naming great composers of several hymns. Members discussed questions on the Women's Institute. Donations given to a family who had lost their home by fire. Mrs. George Parsons received congratulations from the members upon receipt of the Special Honorable Mention from the Vancouver Saturday Night Women's Press Club for a radio script that she prepared and gave over Radio Station C. K. T. S. Sherbrooke. Three members won prizes in the Handicraft Competition. Eight members attended the reception for Mrs. Dutt in Lennoxville. Two contests were held—'Questions on the Women's Institute' and 'Naming what we saw'. Members from the Sawyerville Branch were entertained. *Brookbury*—Two very successful card parties were sponsored, benefit of those suffering from their losses by fire. A sunshine basket was given to a member. Two members were remembered with corsages when they celebrated their Golden anniversaries. A very pleasant trip was made to the Eaton Museum and to Maplemount. Nine members were in Lennoxville for the reception for Mrs. Dutt. Grandmother's Day was celebrated with prizes going to the oldest and the youngest grandmother. A special prize to the grandmother with the most grandchildren. *Canterbury*—The county president reported the Convention. 439 articles were packed from this County for the "Save the Children". A small donation was sent to Maplemount. Donation to a family that had suffered serious loss by fire. Mailbox shower held for a community member. Two baby showers were held. A discussion was enjoyed on Bill 16, also on Women's Rights. The Agriculture Convenor gave tips on the planting of flowers and shrubs.

GASPE-Douglastown—The County President attended this meeting and presented many new ideas towards making our meetings more interesting. Another new member was welcomed to this Branch. The W. I. Scholarship was presented to Miss Noreen Foley, who had the best notes for Grade XI. Roll call was—Name the family of your great grandmother. Motto—Be a friend to strangers in our town. *Gaspe*—Roll call—Bring food or any other article to be sold for not more than fifty cents. Motto—Get all the fresh air that you can, when you can. Items read:—Education—The modular system in teaching; Health and Welfare—Movement betrays true feelings; Citizenship—



Mrs. Ivor Whitehouse, a member of Stanstead North W. I. taken at our April meeting on the occasion of her 80th birthday. Mrs. Whitehouse is our 'Lady of the Dolls' as she has beautifully dressed so many dolls which have given joy to children at Douglas Hospital, Sherbrooke Hospital, Maplemount Home and Dixville Home. This is her work for the W. I. and she enjoys it so much. She also makes beautiful scrapbooks which the children also enjoy.

Immigration; Publicity—Flying Priest plans unique B. C. Mission program. Mrs. L. Suddard, convenor of agriculture, showed slides of her trip to EXPO, also of the Gaspé area. *Murdockville*—Mrs. Fathergill gave a talk on her life with W. I. work in South Africa. Roll call—pay double the size of your shoe. *Wakeham*—Roll call—Name an important event of the month. Mrs. Sydney Patterson gave the report of the W. I. convention held at Macdonald College. A donation was given to the Minor Sports Group. *York*—Roll call—Bring something home from the Bake Sale or pay fifty cents. Motto—In youth we learn, in age we understand. A successful rummage sale was held, left-over clothes were given to Christ the King's Sisters. Publicity convenor read the revised Lord's Prayer.

GATINEAU-Kazabazua—Roll call—Name ways in which we can become better citizens. A successful rummage sales was held. Contest of naming the Prime Ministers. The following readings were given by the Citizenship convenor—Lester Pearson's Memorial Committee, Peace Garden, and the Century Home in Montreal—giving information about the care they give to immigrants that come to our great country. *Wright*—Roll call—What you would like to see accomplished in the first year of Canada's second century. This brought out many interesting thoughts. Christmas Stockings were filled and sent. Mrs. Fred Thayer gave her report on the Annual Convention of the Gatineau County W. I. A donation of soap was given to Brookdale Home.

MEGANTIC-Inverness—A picnic was enjoyed at the new Government Picnic Area at Lysander Falls. Donated a prize to the Horticultural Society. Plans were completed for the meeting in Lennoxville honoring Mrs. Dutt—several members are to attend.

MISSISQUOI-Cowansville—Roll call was answered by describing a current event. A member gave a vivid description of a recent trip to Italy. A guest from Australia told about the corresponding organization there, and answered many questions about her country. *Dunham*—Roll call was answered by naming another woman's organization. Articles were read on "Paper Bridal Gowns" and "Social Drinking". *Stanbridge East*—Roll call was answered by naming a last year's event that may make Canadian History. A display of Canadian Historic Sites was held; mounted pictures of sites brought and their history described. Subscription to C. A. C. was renewed.

MONTCALM-Rawdon—We have held our annual Tea and Sale, which was again very well patronized by residents and summer guests, who all seem to enjoy the sociability. Seven of our members took advantage of the privilege of meeting Mrs. Dutt at Lachute on August 24th. It was a most inspiring and enjoyable occasion, and all those who were responsible for the arrangements and the delicious luncheon are to be congratulated. What a charming and gifted lady our World President is! *PAPINEAU-Lochaber*—Roll call—name your first school teacher and the school that you attended. Last of the material brought in for the Christmas Stockings.

PONTIAC - Bristol—Mrs. Dickson gave a very informative talk on Politics. Questions and answers read on Household hints, by several members. Several articles were brought in for our work box. *Wyman*—A guest speaker was enjoyed—subject being "What is a good citizen?" The convenors reports followed—Agriculture—petunia's planted and weeded at the Park; Education—Spend your money wisely; Citizenship—fourteen Christmas Stockings sent to Save the Children, several shirts being made for the Red Cross; Home Economics—Hints to Homemakers; Publicity—the Youth Travel Project.

QUEBEC-Valcartier—Letters of appreciation were received from two School Boards for prizes donated by this W. I. A gift of a Hospital Bed to this branch from a friend will be used when needed in the community. Plans were completed for the annual Labor Day Bazaar and Chicken Bar-B-Q.

RICHMOND-Cleveland—A 's w a p -contest' had four winners. Two contests—'Names of Institutes and 'Know your Birds' brought out several winners. Prizes were given in each Grade VI for Effort and Improvement—the winners being Ginette Senneville, Janet Badger and Larry Doyle. *Denison Mills*—Mystery Parcel, benefit of Sunshine Committee was won by Miss Ethel Rief. An afternoon quilting for the Inter-Branch Competition was enjoyed, the two visitors added to the fun. Prizes will be donated to the A. D. S. School and the St. Francis. Patterns for a crib quilt were displayed—Mrs. Carson will be in charge of this project. 25 Christmas Stockings were packed. Gore—This Branch won third prize for their play presented at the Provincial Convention at Macdonald College. An expectant mother was presented with a Baby Bank containing silver coins. 21 Christmas Stockings filled and sent to

Save the Children Headquarters. 20 copies of second edition of History of Richmond and surrounding areas have been ordered. Ways and Means Committee have sold cook-books containing recipes for cookies and squares. Each member brought a guest. 11 bed sheets were brought in for the cancer patients. *Melbourne Ridge*—A picnic was held for all of the children in the community. Prizes given for the races and contests. Held a contest for the members on Jumbled Letters on EXPO '67. Grandmother's Day was observed with nine out of the fifteen members present winning corsages and gifts of jewelry. *Richmond Hill*—Plans were made for enlarging the kitchen in the W. I. Hall. Contests were—Articles made from Felt and Words made from the word Citizenship. Two prizes given in Grade III for the greatest improvement in spelling. A quilt was quilted to be entered at the Richmond Fair in the Inter-branch competition. *Richmond Young Women*—An invitation received and accepted to visit another branch. A contest held on 'Do you know your Canada?'—this was conducted by the Publicity convenor; plans made to cater to a wedding. *Spooner Pond*—Entertained the Richmond Young Women. Gave out geranium plants to be grown as a contest. Bingo was played to entertain the guests. Held a picnic for families—races for the children and contests for the grown-ups. Gave a blanket to a member for her family who had a fire, losing all possessions.

SHEFFORD-Granby Hill—(Report for July, August, September.) Annual picnic was well attended. Roll call—Name a courtesy you would like to see observed; Roll call—Each member to make and wear a Home Hat—prizes were given; followed by a short business meeting. Roll call—A 'Do or Don't from the Q. W. I.' A brief summary of the luncheon honoring Mrs. Dutt was given. Musical Terms contest, arranged by the Publicity Convenor. *Waterloo-Warden*—(Reports for July, August, September.)—Two interesting talks given—'Nylon Hose' and 'Helen Keller'. Copies of Federated News to be ordered for each member. A card was signed by the members present to be sent to a former member for her 101st birthday. Roll call—name a current event of local interest.—Roll call—Name someone who has overcome a handicap. Articles were heard on the following subjects—Medicare, Synthetic Dairy Products Ruining the Dairy Industries, and Gatan Paris, Canada's second heart

transplant patient. Pictures passed around of Tuwoomba Flower Festival in Queensland, Australia. Roll call—What do you think of having the same school course all across Canada? A summary was given of the reception for Mrs. Dutt. Articles presented were—enrolment at McGill; Conference held at Granby by Police Chiefs; What to do with un-ordered merchandise. Mrs. Sherwood who is 88 years young paid into the birthday box. She never misses a meeting.

SHERBROOKE-Ascot—Mrs. E. Marlin spoke about her trip by car from Quebec to British Columbia, describing the things seen and done. Pertinent information on road conditions and a comparison of food prices across the country. Roll call was bring an antique and tell something about it. Small articles were brought, among them a drawn thread linen handkerchief; tiny white linen cape, called a poncho worn by the members grandmother; brass candle snuffer and a school report of member's father; a Canadian one-cent piece minted during the reign of Queen Victoria; an old and attractive Majolica jug and a picture of the house where member was born, done in wood inlay. The different woods used came from the case of a clock bought on the day the member's father was born. *Belvedere*—Roll call—where I would like to spend my vacation. Card party was held at a member's house for members and friends. A rummage sale was held. A 25-year pin was presented to Mrs. A. E. McGee by President Miss Edna Smith on behalf of the Belvedere branch. *Milby*—Final plans were completed for the visit of Mrs. Dutt. Christmas Stockings were sent to Headquarters; money was donated to Maplemount Dental Clinic; gift of a blanket and pillowcases to a family who lost their home by fire; wedding gift presented to a bride; two demonstrations were held. Ten members toured Allatt's Bakery. A letter was signed protesting the removal of the Sunday church service on the Sherbrooke Radio Station. Tablecloths were purchased for the Club Room tables. Education convenor Mrs. W. Evans, the guest speaker and Miss Ruth Evans, showed beautiful slides on the trip to Ethiopia. Evelyn Sutor thanked Miss Evans.

STANSTEAD-Beebe—Picnic meeting was enjoyed at Wier Park. Sponsored the local group of Boy Scouts. Served doughnuts and coffee at the Red Cross Blood Clinic held at Sunnyside afternoon of August twelfth. *Stanstead North*—furnished food at evening Red Cross Blood Clinic at Sunnyside. A letter of thanks was re-

ceived from Maplemount home at Cookshire for clothing. Scrap books made by Mrs. Whitehouse were turned in for the Maplemount Home. This branch had a marching entry in the July 4th celebration at Derby, Vermont. Two members and a group of young people portrayed "The Hill-billy Wedding".

VAUDREUIL-Harwood—At our Welfare and Health Meeting (Mrs. McKellar, convenor) we were privileged to have as speaker Mrs. C. M. Nymark, a professional dietitian, presently at the Lakeshore General Hospital. Mrs. Nymark has had wide experience in her native Holland, in the United States and Canada in her field, and gave us a most informative talk on the different types of foods, the planning of diets, etc. A question period followed her talk and all members took part with great interest. Mrs. Prinn, who had been the Harwood delegate to Convention in June, gave her report. Members had not been idle during the holidays and fifteen sweaters, knitted for the Unitarian Service Committee, were brought in.

TEXTILE (from p. 7)

only answer.

The yarn, the fabric construction and the weave, however, give up their secrets to close observation and these secrets give many clues to the fabric story.

Take yarns. They are easy to see or pull out at the cut end of a fabric or along a seam. Smooth, highly twisted yarns give strength to a fabric. They help crease resistance because the twist acts like a spring coil and pulls the cloth back to its original flat form. The fabric is smooth and tends to shed soil. The ends of the fibres are caught in the twist so that pills, those ugly little balls of tangled fibres, do not form. On the other hand, fluffy low-twist yarns make a fabric because there is room for little pockets of air among the fibres and dead air spaces give the best insulation in the world. Note storm windows! Infinitesimal beads of moisture are caught in these air spaces, thus perspiration is removed from the body for summer comfort. Summer comfort is increased because the fluffy fabric is lifted from the skin. It does not cling. Highly twisted yarns help the cloth keep its shape. Soft, low twist yarns tend to sag and do not hold pleats. Highly twisted yarns produce a firm fabric, which looks best in crisp, tailored styles. Soft yarns

fall into lovely draped folds.

The yarns with knots, spots, slubs, corkscrews and snarls (boucle is one) are decorative, not durable. They are used only as weft yarns. They are not strong enough for the weight-wear which the warp must take. The knots, spots or slubs protrude above the surface of the cloth and are rubbed away by a purse or a sleeve against a jacket. They sag too. For long wear the smallest and tightest, woven into a close compact weave, are best.

Balance in yarns is important. The weft yarns should approximate the size of the warp yarns. If one is much larger than the other, the larger will simply pull the fine apart and the fabric will shred in long, ragged tears.

So much for yarns. A study of the construction and the weave will give much more information on quality.

The wise consumer's sign post is not STOP, LOOK and LISTEN but STOP, LOOK and EXAMINE. Did you know that you can tell an acetate fabric by its smell?

— 1968
(from p. 8)

Degree Agriculture, Home Economics, or Education. But it looks like a full house.

Registration this year was perhaps the most impressive in the history of the College. It was the first major event in the magnificent ballroom of the new Centennial Centre, the 1½-million-dollar students' union. With ceiling-to-floor windows looking out over the Ottawa River, crystal lights playing shadows on the ceiling, and the whole reflected in the polished tile floor, it would take an awfully frightened or insensitive frosh not to feel the thrill of the moment of entering university.

Prize for marathon driver in the student division goes to Donnie Gunn, in fourth year Animal Science. He and his three companions left Scotsburn, Nova Scotia, seven o'clock Tuesday night, and arrived at MacDonald College in time for eleven o'clock registration Wednesday morning. I wonder if I should mention that two of Donnie's passengers were nurses, which makes his feat more remarkable still.

— Walker Riley

Next Month :

SPECIAL
XMAS
ISSUE

contest winners

In the nineteenth Honey and Maple Products competition organized by the Department of Agriculture and Colonization, Mrs Antoine Simard of St-Bruno, Lake St. John, came first in the general class of the honey division and Mr Joseph Mackay of Marbleton, Wolfe County, headed the general class of the maple division.

Mr Gérard Huot of Château-Richer and Mr Paul Vadnais of Ange-Gardien, Rouville County, placed first respectively in the white honey and maple syrup sections.

These prizewinners had already won first place in contests at their local agricultural shows before competing in the finals in the Agricultural Pavilion at the Provincial Exhibition in Quebec City.

new pest

The Research Service of the Department of Agriculture and Colonization has carried out a survey on the alfalfa weevil (*Hypera postica*) and informs Quebec farmers that, at the moment, there is no need for them to be alarmed about this new pest.

Low yields of alfalfa obtained by Quebec growers this year are considered at the Department to be due to the adverse weather conditions that prevailed in most areas and not to alfalfa weevils.

According to Mr J. André Doyle, entomologist, the insect was introduced into Quebec across the Vermont border from the United States, where its presence has been known for a number of years. At present it is restricted here to the counties of Missisquoi and Iberville. According to some experts, however, the species has been wintering in Ontario for at least three years. This is the first year it has been reported in Quebec.

The Department's Research Service now has many specimens of the weevil under observation and thinks that the insect, being used to a temperate climate, will not be able to stand our severe winters; but the percentage of its population to survive will not be known until next spring.

In the United States, the life cycle of the alfalfa weevil follows the normal course. The eggs hatch one to two weeks after the spring laying. At birth, the larva crawls to the buds, gets inside and feeds on them for three to four weeks until it reaches



Céline Thérèse, and Gilles Fiset collecting hatching eggs at St-François in Montmagny County

the chrysalis stage. This stage usually lasts for 10 to 12 days, after which the weevil, now a young adult, attacks the stems and buds of alfalfa again. Its destructive activities continue for two to four weeks, after which it begins a migratory period lasting up to the end of September. About mid-October it returns to the alfalfa plants to breed and sometimes to lay a first batch of eggs but mainly to overwinter. It dies before the first shoots appear in spring.

There are several reasons, especially the climate, for believing that this cycle will be considerably different in Canada, particularly in Quebec.

a new form of potash fertilizer for potatoes

Bicarbonate of potash is a new potassium fertilizer which has been found more effective than other forms (especially muriate of potash) for fertilizing potato land. In 1967, yields of number one tubers obtained with this new fertilizer exceeded those obtained with two thirds muriate of potash plus one third sulphate of potash-magnesia by 67 fifty-pound bags per acre.

These results were obtained in research subsidized by the Quebec Agri-

cultural Research Council and carried out by Auguste Scott and Emile Chamberland, agronomists of the Research and Education Service, Department of Agriculture and Colonization. Starting in 1962, their experiments were conducted in two types of Lower St. Lawrence soils until 1965 and then continued in Vien (Lotbinière) sand during 1965 and 1967.

For the four forms of potassium fertilizer tested, average yields per acre from 16 plots in 1967 were as follow: bicarbonate 193 hundred-weight; sulphate 186; muriate 178; mixture of two thirds muriate and one third potash-magnesia sulphate 159. However, no appreciable difference was found between yields obtained with these four fertilizers in the two types of Lower St. Lawrence potassium-rich soil; nor was there any appreciable difference between these yields in Vien sand during dry years.

As regards yield and specific gravity, there was not much to choose between the sulphate and the bicarbonate, but the latter seems preferable because it tends to produce a higher yield and paler potato crisps.

Even though the bicarbonate is not yet available, it seems that it could be produced at the same cost as the sulphate.

If tuber quality is the main aim, the ideal application rate for potassium in eastern Quebec seems to be about 60 pounds of K to the acre; but if the highest possible yield is aimed at, about 80 pounds of K (100 pounds of K_2O) in the form of bicarbonate seems best, especially if one intends to irrigate.

St. Hyacinthe Branch Meets

At a study session held under the auspices of the St. Hyacinthe branch of the Corporation des Agronomes 11 June, 1968, three speakers Gaspard Lalande of the Lennoxville Research Station, Dr. L. A. Charette of Laval University and Mr. Leon Sylvestre from the Ministry of Agriculture and Colonization discussed the topic "Is there a future for beef production in the St. Hyacinthe region?"

Gaspard Lalande described his work at Lennoxville with respect to crop management and particularly pasture and forage production in continuing trials whereby groups of 48 steer go on a forage feed in November at about 530 lbs. average and are marketed the following fall at the end of October when they are expected to have reached approximately 1,000 lbs. Initially one half the group are implanted with hormones and in the spring one half of this group are implanted for a second time while one half of the second group are implanted for the first time.

Each group is placed on a 22 acre pasture. One pasture is mainly ladino

the other grass. Both pastures have a fertilizer program on two levels, one standard practice and the other double, and are divided into 4 rotational grazing plots. The grass pasture outyielded the ladino both in dry matter and gain per animal at both fertilizer levels.

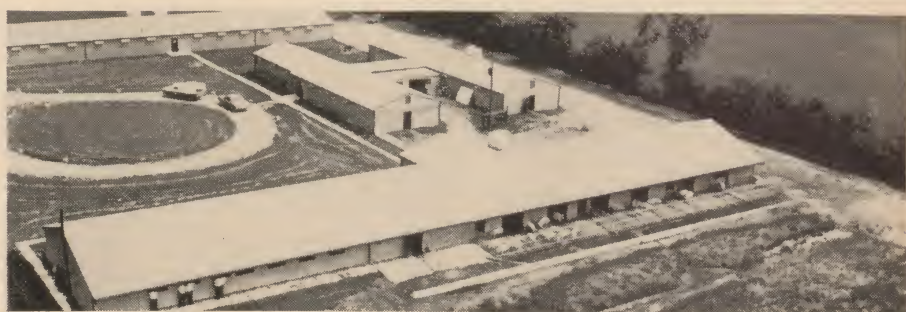
Dr. Charette in his presentation pointed out that publicity on beef production had attracted a lot of farmer interest especially where there was a labor shortage and where returns from milk were low. He warned that while some people regarded beef production as less demanding of management skills the opposite was in fact true. He emphasized that it was a mistake to try to make a beef man out of an unsuccessful dairyman. Dr. Charette said he was confident that there would be a place for beef production in the St. Hyacinthe area in view of the regions' ability to produce the field crops to support feeding operations. In this respect he made particular reference to the corn crop and to its rapid expansion. He also saw some potential for a cow-calf operation as part of a mixed enterprise involving dairy, swine, or cash crop production. He saw the need for flexibility in adapting these combinations as well as in the possibility of finishing cattle on their farm of origin. He stressed that

it required more capital, more management and market knowledge to buy and feed out stock calves, and the need for quality in these calves.

At Laval they have a project whereby they have crossed dairy cattle with beef bulls to determine what is the best program for those dairy farmers who wish to produce quality calves from a certain number of cows from which they do not foresee keeping dairy replacements. While tests to date are not concluded he observed that there seemed to be no advantage of using a beef breed bull on Holstein cattle. There was an advantage in using Charolais bulls on Ayrshire cattle but not the other beef breeds. With regard to the Canadienne breed, any beef breed would seem to produce a more desirable calf.

In closing his remarks, Dr. Charette said it was important that great care should be taken to initiate a limited number of farmers to beef production in order to follow their progress closely and to avoid unnecessary setbacks which could prejudice a desirable new production.

Mr. Leon Sylvestre outlined the Department of Agriculture and Colonization's approach to beef production throughout the province. He said a definite program of assistance was in



the mark
of progress
in the science and
development of feed



formulation whereby the peripheral farming areas, that is those outside the area of concentrated dairy production, would receive special attention. Immediate goals were to consolidate farms in these zones by repurchase, or repossession of those under conditional sale arrangements. The next step would be to rebuild these farms by surface drainage, liming, etc. These farms would then be offered for sale or rental at modest prices.

In order to prepare the farmers for this type of endeavour he said that there would be a program of retraining, that sufficient resource personnel would be assigned to the regions and that at least 4 standard farms would be established. These latter farms were to establish management practices and determine costs of production rather than serve as demonstration farms. The department recognized the need to support the farmer by a system of grants while he built up his heard to 100 cows. These grants would be available to herds with a minimum of 20 cows and would be on a decreasing amount per cow for a maximum of 5 years or the arrival at the 100 cow goal. The department anticipated that there would be a developing market in the St. Hyacinthe area for the calves from such cow-calf operations but present plans call for the finishing of the beef in the production areas using the program outlined by Mr. Lalonde.

Following the presentation of the papers there was a panel discussion with many questions related to the profitability of cow-calf, roughage and pasture finishing of beef, and the feed-lot type of operation. By the very tone and nature of the questions, and obvious difficulty in giving concrete answers because most of the research trials do not focus on the costs of production, it is evident that Dr. Charette's words of caution to go slowly and build surely are timely advice.

what to do with the soybean crop?

This is a question that is often asked by growers and one which has often been answered at many farmers' meetings.

Mr Philippe Granger, agronomist and lecturer at the Institute of Agricultural Technology in St-Hyacinthe, believes that this year's soybean crop in Quebec should be used for feeding dairy cattle. A hundredweight of soybeans will adequately replace a hundredweight of protein supplement costing over five dollars a bag and

thus save the grower more money than he could have sold it for on the open market.

There are some promising fields of soybeans this year in the St-Hyacinthe district, but the total volume of production is not yet big enough to make it practical or even profitable to try and market the crop commercially. The area sown to soybeans here in 1968 is estimated at about 3,000 acres. The crop will probably not exceed 80,000 bushels, most of it on farms where it can be profitably used to balance dairy cattle rations at a rate of up to 300 pounds of soybeans per ton of meal.

Apparently we are not yet ready to sell soybeans on the commercial market. Growers need to become more familiar with the crop, and the volume of production must be increased first. Furthermore, the moisture content will have to be approximately 14 per cent and the quality not lower than grade 2.

We have two paying crops in the area south of Montreal—grain corn and soybeans—but premature commercialization could lead to a halt or delay in their expansion.

sheep rearing

In spite of the steady decline in sheep raising which has been going on for a number of years, the Department of Agriculture and Colonization, aware of the income that farmers in favourable regions can derive from sheep, is continuing to give substantial aid for the foundation and building up of larger flocks.

The following figures show that there has been a marked decline since 1956 in the number of Quebec farms on which sheep are kept and a very considerable (but somewhat lesser) decline in the total number of sheep:-

Thus, between 1956 and 1967, the number of Quebec farms on which sheep are kept has dropped by 79.4% and the number of sheep by 65.7%. Between 1956 and 1961, the declines were 49% for the farms and 42% for the sheep.

The number of sheep on Quebec farms in 1967 showed a decline of 5.7% as compared with 1966.

The situation is such that it is urgently necessary to make use of all available means if it is desired to rehabilitate this industry and put it back on a stable and permanent basis.

Twenty sheep-breeding centres have been organized under the direction of county agronomes in the Lower St. Lawrence and Chicoutimi-Lake St.

John regions and in northwestern Quebec. The number of farmers belonging to these centres has been diminishing for a number of years past but, on the other hand, the size of the flocks has increased. The average number of sheep per flock in 1967 was 30.5 but there are now approximately 200 flocks with between 65 and 125 sheep, and a number of farmers wish to establish bigger flocks.

crossbreeding systems

We recommend two production plans for the centres:

Plan I — Production of early lambs (30 to 40 pounds liveweight) for areas within a radius of 100 miles of the larger centres.

Suggested crosses

- A) Suffolk ram on Leicester-type or N.C. Cheviot-type ewes;
- B) Oxford, Hampshire, or Shropshire ram on ewes resulting from mating A.

The ewes are bred about the first of August to lamb around the middle of January.

Notes on Plan I

Cross A — The purpose of this mating is to produce a very prolific hybrid breeding ewe with Suffolk blood and very good maternal qualities conducive to rapid growth of the lambs.

Cross B — According to results of experiments conducted at the Lennoxville research station, matings between hybrid females with Suffolk blood and Oxford, Hampshire, or Shropshire rams resulted in heavier lambs with improved butchering qualities.

Plan II — Production of late-summer and fall lambs. Most sheep-raisers use the system of mating suggested in this plan.

- A) Leicester ram on Leicester-type ewes;
- B) N.C. Cheviot ram on upgraded Leicester-type ewes from mating "A";
- C) Oxford)
Suffolk) ram on hybrid ewes
Hampshire) from mating "B".

In the great majority of flocks, the lambs resulting from mating "C" are intended for marketing when they weigh about 100 pounds.

The ewes are bred in mid-October to lamb around the middle of March.